

# air meteorologist

Name: \_\_\_\_\_



Requirements	Passed
1. Know the basic structure of the atmosphere by: a) Explaining the composition of the atmosphere. b) Explaining the layers of the atmosphere. c) Defining the ICAO standard atmosphere.	
2. Explain what is meant by: Pressure, QNH; QFE; QNE; QFF, stability and temperature distribution, temperature gradients.	
3. Explain Buys Ballots law.	
4. Explain the different ways in which fog is formed as well as day and night visibility.	
5. Demonstrate and understand the purpose of the following instruments: a) Wet and dry-bulb thermometers. b) Barometer. Show that air has weight and pressure. c) Anemometer. Show that the wind has force and pressure. d) Windvane. Build a simple model of a wind vane. e) Rain gauge. Build a simple model of a rain gauge.	
6. Describe the measurement of inland and coastal station pressures and: a) Name the properties of ISOBARS. b) Describe the types of pressure distribution. c) Explain the variation in air pressure due to altitude, and point out some resulting problems for engines, for flight path hazards and for the pilot themself.	
7. Describe the composition of water vapour and explain saturation; condensation; sublimation; evaporation; relative humidity; dew point and vapour pressure.	
8. Do the following: a) Define pressure gradient force and geostrophic wind. b) Discuss diurnal variation of the surface wind. c) Understand berg winds; sea breezes; land breezes; and indicate six or more ways how a pilot, about to land, can identify wind direction. d) Have passed the Airmanship Scoutcraft Badge, or complete parts 6 and 7 of its requirements.	
9. Make a simple forecast from a weather map with special reference to winds, temperature, and barometric pressures. a) Understand the main forms of airframe icing and engine icing and explain the types of ice accretion in cloud: rime, clear ice, pack snow and freezing rain. b) Explain the effects of ice accretion on the performance of an aircraft.	
10. Report, either in writing or orally, on a visit to a meteorological station covering the following: instruments and their uses, charts used, instructions issued to pilots.	

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**Badge Awarded**

